Remarks

35 U.S.C. §103

On page 2 of the Office Action, at paragraphs 1 and 2, claims 7, 8 to 15, and 17 to 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Schoenberg (US 4,514,465) in view of Longmoore et al. (US 6,497,965) and Plume (US 6,846,863) . Applicants respectfully traverse this rejection to the extent it is applied to the claims as now presented.

Applicants note that claim 9 was canceled in the most recent 1.111 response of April 25, 2006.

Independent claim 7 as now amended recites in part that:

- the first outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the first substrate layer; and the second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the second substrate layer; and that
- the first and second outer layers each have an outside surface coating of from 10 to 15 micrograms/inch$^2$ of primary fatty amidic wax.

Independent claim 14 as now amended recites in part that:

- the first outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the substrate layer; and the second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the substrate layer; and that
- the first and second outer layers each have an outside surface coating of from 10 to 15 micrograms/inch$^2$ of primary fatty amidic wax.

The Applicants submit that no new matter has been added; support for these amendments can be found i.a. at page 9, lines 7 to 21; page 10, lines 20 to 28; page 11, lines 25 to 29, page 12, lines 6 to 8, page 13, lines 7 to 9, and page 27, lines 13 to 17 of the specification.

New dependent claim 24 includes an additional limitation that at least one of

i) the first and second outer layers, and

ii) the first and second substrate layers

comprises from 1,000 ppm to 5,000 ppm of a transition metal salt of stearic acid, or ester of stearic acid.

The Applicants submit that no new matter has been added; support for this amendment can be found i.a. at page 12, lines 31 to 33 of the specification.

New dependent claim 25 includes an additional limitation that at least one of

i) the first and second outer layers, and

ii) the substrate layer

comprises from 1,000 ppm to 7,000 ppm of a transition metal salt of stearic acid, or ester of stearic acid.

The Applicants submit that no new matter has been added; support for this amendment can be found i.a. at page 14, lines 14 to 16 of the specification.

The result of the above amendments is that some of the examples so indicated in the specification are, as a result of narrowing of the claims, outside the claim scope.

Referring to Table 5 on page 22 of the specification, Example 17, representing a five-layer film, is now fall outside the scope of amended claim 7, because Example 17 does not have a first outer layer comprising primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the first substrate layer; and a second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the second substrate layer. In Example 17, the outer layers comprise primary fatty amidic wax in an amount of 12.5% of the amount of primary fatty amidic wax in the substrate layers.

Examples 16 to 18 are also not shown to include any transition metal salt of stearic acid, or ester of stearic acid, in at least one of the first and second outer layers, and the first and second substrate layers. This is also a required element of claim 7.

Also, for Examples 16 to 18, the "total surface amide" appearing in the right hand column of Table 5 is in all three examples less than the surface coating range of from 10 to 15 micrograms/inch$^2$ of primary fatty amidic wax now recited in claim 7. Specifically, Examples 16 and 17 have total surface amide of 5.9 micrograms/inch$^2$, and Example 18 has total surface amide of 8.6 micrograms/inch$^2$.

Table 6 on page 23 of the specification discloses Examples 19 to 22.

None of these examples include a first and second layer comprising a primary fatty amidic wax. Thus, they do not satisfy claim 7, that requires that a first outer layer comprise a primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic

wax in the first substrate layer; and a second outer layer comprise a primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the second substrate layer.

Also , the total surface amide of these four examples is shown as ranging from 2.7 to 7.3, less than the surface coating range of from 10 to 15 micrograms/inch$^2$ of primary fatty amidic wax now recited in claim 7.

Looking now at Table 7, Example 23 exhibits a total surface amide of 10.9 micrograms/inch$^2$, within than the surface coating range of from 10 to 15 micrograms/inch$^2$ of primary fatty amidic wax now recited in claim 7. However, no stearate is present in the film, and therefore the film does not include a transition metal salt of stearic acid, or ester of stearic acid, in at least one of the first and second outer layers, and the first and second substrate layers.

Independent claims 7 and 14 thus include among others three requirements: that

- a first outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the first substrate layer; and a second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the second substrate layer (claim 7); or that a first outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the substrate layer, and the second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the substrate layer (claim 14);

- a transition metal salt of stearic acid, or ester of stearic acid, is present in at least one of the first and second outer layers, and the first and second substrate layers (or substrate layer for claim 14); and

- the first and second outer layers each have an outside surface coating of from 10 to 15 micrograms/inch$^2$ of primary fatty amidic wax.

The benefit of this combination can be seen in the next example of Table 7, Example 24. Example 24 is the same in all relevant particulars to Example 23, but includes a transition metal salt of stearic acid, or ester of stearic acid (glycerol monostearate) in the substrate layers. The result was that the first and second outer layers each had an outside surface coating of from 14.3 micrograms/inch$^2$ of primary fatty amidic wax, compared with only 10.9 micrograms/inch$^2$ for Example 23.

Table 8 discloses Examples 25 and 26, that have outer layers comprising a primary fatty amidic wax in an amount of 10% of the amount of primary fatty amidic wax in the respective substrate layers. Example 27 discloses outer layers comprising a primary fatty amidic wax in an amount of 5% of the amount of primary fatty amidic wax in the respective substrate layers. They therefore do not fall within the scope of amended claim 7. Example 25 additionally does not disclose a transition metal salt of stearic acid, or ester of stearic acid, in at least one of the first and second outer layers, and the first and second substrate layers. None of Examples 25 to 28 discloses first and second outer layers each having an outside surface coating of from 10 to 15 micrograms/inch$^2$ of primary fatty amidic wax.

Table 9 discloses Examples 29 to 32, all falling within the amended claim language. They each disclose a first outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the first substrate layer; and a second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the second substrate layer. The percentage values range from 17% (Example 30) to 22% (Example 31). They each disclose a transition metal salt of stearic acid, or ester of stearic acid, in at least one of the first and second outer layers, and the first and second substrate layers. Finally, they each disclose an outside surface coating of from 10 to 15 micrograms/inch$^2$ of primary fatty amidic wax (rounding off the value of 15.4 micrograms/inch$^2$ of Example 29 to 15 micrograms/inch$^2$, consistent with the amended claim language.

It was found that films of the invention having total amide wax levels of 10 to 15 µg/in$^2$ resulted in substantially consistent film performance from the top to the bottom of the roll. Openability, where a folded film separates well on opening bars of packaging equipment, was excellent, and film tracking through packaging equipment, without excessive wax buildup on the packaging equipment, was also substantially consistent throughout film rolls (page 25 of the specification, lines 5 to 10).

Turning to the art references, on page 2 of the Office Action, at paragraph 5, it is indicated that "[Schoenberg] is silent regarding the use of slip agents in the intermediate layers in a higher amount than the surface layers." Applicants respectfully submit that this statement, while true, unduly extends the teachings of Schoenberg. At column 17, lines 29 to 41 of the reference, it is stated in part that

> [a]dditionally, these percentages may vary slightly as a result of the inclusion or application of additives to the ***surface*** layers such as the silicone mist discussed

above or inclusion therein of agents such as slip, antioxidant and anti-block agents . . .A preferred slip agent is Erucamide (available from Humko Chemical under the tradename Kemamide E).

[emphasis mine]

Schoenberg also teaches, further down the same column, that

The general ranges for inclusion of these agents into the ***surface*** layers 4 and 5 . . . are as follows . . .
(2) Slip Agent:
1000-2000 ppm, preferably
1250-1750 more preferably
about 1500 ppm most preferably

[emphasis mine]

Applicants submit that these teachings are directed to the surface layers of Schoenberg's film.

To be sure, Schoenberg goes on to teach that additional layers and/or minor amounts of various additives of the types described above may be added to the film structure of the present invention as desired, but then qualifies this statement by saying "but care must be taken not to adversely affect the desired physical properties and other characteristics of the inventive film." It is therefore not clear which additives and which layers would be added. In any event, "Additional" in column 18, line 14 can not refer to the intermediate layers 2 and 3, since these have already been disclosed and discussed in detail at e.g. column 14, lines 47 to 59 of the reference.

Applicants respectfully submit that a fair reading of Schoenberg does not support a conclusion that slip agents are present in the intermediate layers *at all,* much less in a higher amount than the surface layers of the multilayer film of Schoenberg.

Plume teaches a composition that can include fatty acid amides (column 2, line 12) and antacids (column 2, line 28) such as calcium or zinc stearate (column 3, line 5). However, the composition of Plume et al. is for a screw cap for a bottle. No film, or multilayer film, is taught. The calcium and zinc stearates are not taught as aids in controlling migration of a primary fatty acid amide, but simply as antacids. There is no teaching or suggestion in Plume that a calcium or zinc stearate would help control the bloom (migration) of primary fatty acid amides to the surface of a multilayer polymeric film. Thus, there would have been no motivation to utilize a transition metal salt of stearic acid, or an ester of stearic acid, in at least one of a first and second substrate layer, or a first and second outer layer, of

a multilayer film, the film characterized by having first and second outer layers, and first and second substrate layers, each comprising primary fatty amidic wax, and the film further characterized in that the first outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the first substrate layer; and the second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the second substrate layer.

There would also have been no motivation to utilize a transition metal salt of stearic acid, or an ester of stearic acid, in at least one of a first outer layer, second outer layer, and substrate layer of a multilayer film, the film characterized by having first and second outer layers, and a substrate layer, each comprising primary fatty amidic wax, and the film further characterized in that the first outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the substrate layer, and the second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the substrate layer.

Longmoore et al. teach away from the use of erucamide because of its volatility and the problem of plating on processing equipment, causing a clean-up problem (column 1, lines 32 to 37) and teaches away from behenamide, in a surface layer intended for printing, because of its tendency to build up on the doctor blade of a rotogravure printing system (column 1, line 61 to column 2, line 9). Longmoore et al. propose the use of N,N'-bis-alkylene fatty acid amide in one of the surface layers of a film (column 2, lines 24 to 62). In contrast, the present claims are directed to recite a primary fatty amidic wax. N,N'-bis-alkylene fatty acid amide is not a primary fatty amidic wax. Longmoore et al. do not appear to teach a primary fatty amidic wax in each of the first substrate layer, second substrate layer, first outer layer, and second outer layer (cf. claim 7) or in each of the first outer layer, second outer layer, and substrate layer (cf. claim 14).

Longmoore et al. also state that with their invention, "the problem of vaporization encountered with erucamide and to a lesser extent with behenamide is eliminated" (column 5, lines 3 to 5).

The invention as now claimed in amended claims 7 and 14 includes i.a. a combination of :

- a first outer layer comprising a primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the first substrate layer; and a second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount

of primary fatty amidic wax in the second substrate layer (claim 7); or a first outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the substrate layer, and the second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the substrate layer (claim 14);

- a transition metal salt of stearic acid, or ester of stearic acid, present in at least one of the first and second outer layers, and the first and second substrate layers (or substrate layer for claim 14); and

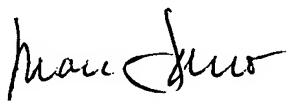
- first and second outer layers each having an outside surface coating of from 10 to 15 micrograms/inch$^2$ of primary fatty amidic wax.

Applicants submit that the cited references alone or in combination do not render obvious the claimed combination and the advantages of the combination. Films of the invention having total amide wax levels of 10 to 15 μg/in$^2$ resulted in substantially consistent film performance from the top to the bottom of the roll. Openability, where a folded film separates well on opening bars of packaging equipment, was excellent, and film tracking through packaging equipment, without excessive wax buildup on the packaging equipment, was also substantially consistent throughout film rolls.

Applicants respectfully ask for allowance of the claims as now submitted. If the Examiner believes a personal interview would be useful in the evaluation of this invention, applicants would welcome an opportunity for such an interview at the Examiner's convenience.

If any fees are deemed due, please charge same to Deposit Account No. 07-1765.

Respectfully submitted,



Mark B. Quatt
Attorney for Applicants
Registration No. 30,484

Cryovac, Inc.
100 Rogers Bridge Rd.
Building A
Post Office Box 464
Duncan, S.C. 29334
(864) 433-2817

12-11-06

DATE